ABSTRACT OF THE DISCLOSURE

For forming a fine structure of a desired material, nanoparticles of the same material are prepared in a suspension. A layer of the suspension is applied by a drop-on-demand printing system to a substrate. At least part of the layer is exposed to laser light for melting the nanoparticles at least partially. Upon solidification, the molten particles are sintered together to form the desired structure. Due to the low melting point of nanoparticles as compared to the melting point of bulk material, this procedure avoids damage to the substrate and provides a better control over the structure generation process. It can be used for generating metallic and non-metallic structures on various substrates. The laser light may have non-Gaussian intensity distribution or can combine multiple beams of Gaussian and non-Gaussian distribution for improving the quality of the generated structure, or it may be pulsed for improved control of the heat flow into the substrate.